

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-7 (Canceled).

8. (Previously Presented) A method of producing a thermistor element having a mixed sintered body $M^1M^2O_3 \cdot Y_2O_3$ of a composition $M^1M^2O_3$ and Y_2O_3 wherein M^1 is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M^2 is at least one element selected from the elements of the groups IIB, IIIB, IVA, VA, VIA, VIIA and VIII, which comprises: performing calcination to obtain $M^1M^2O_3$ having an average particle diameter larger than that of said Y_2O_3 ;

mixing said $M^1M^2O_3$ with said Y_2O_3 ; grinding the mixture to adjust an average particle diameter of the mixture after grinding to an average particle diameter which is not more than that of said Y_2O_3 before mixing; molding the mixture into an article having a predetermined shape; and sintering the article.

9. (Previously Presented) A method of producing a thermistor element having a mixed sintered body $M^1M^2O_3 \cdot Y_2O_3$ of a composition $M^1M^2O_3$ and Y_2O_3 , wherein M^1 is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M^2 is at least one element selected from the elements of the groups IIB, IIIB, IVA, VA, VIA, VIIA and VIII, wherein said M^1 is Y, said M^2 are Cr and Mn, and said mixed sintered body is $Y(CrMn)O_3 \cdot Y_2O_3$, which comprises:

mixing an oxide of Cr with an oxide of Mn;
calcining the mixture at 1000⁰C or more to obtain (Mn_{1.5}Cr_{1.5}) O₄ having an average particle diameter larger than that of said Y₂O₃;
mixing said (Mn_{1.5}Cr_{1.5}) O₄ with said Y₂O₃;
grinding the mixture to adjust an average particle diameter of the mixture after grinding to an average particle diameter which is not more than that of said Y₂O₃ before mixing;
molding the mixture into an article having a predetermined shape; and
sintering the article.

10. (Previously Presented) A method of producing a thermistor element having a mixed sintered body M¹M²O₃·Y₂O₃ of a composition M¹M²O₃ and Y₂O₃, wherein M¹ is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M² is at least one element selected from the elements of the groups IIB, IIIB, IVA, VA, VIA, VIIA and VIII, wherein said M¹ is Y, said M² are Cr and Mn, and said mixed sintered body is Y (CrMn) O₃·Y₂O₃, which comprises:

mixing an oxide of Cr with an oxide of Mn;
calcining the mixture at 1000⁰C or more to obtain (Mn_{1.5}Cr_{1.5}) O₄ having an average particle diameter larger than that of said Y₂O₃;
mixing said (Mn_{1.5}Cr_{1.5}) O₄, said Y₂O₃, and TiO₂;
grinding the mixture to adjust an average particle diameter of the mixture after grinding to an average particle diameter which is not more than that of said Y₂O₃ before grinding;

molding the mixture into an article having a predetermined shape; and
sintering the article.

11. (Previously Presented) A method of producing a thermistor element element having a mixed sintered body $M^1M^2O_3 \cdot Y_2O_3$ of a composition $M^1M^2O_3$ and Y_2O_3 , wherein M^1 is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M^2 is at least one element selected from the elements of the groups IIB, IIIB, IVA, VA, VIA, VIIA and VIII, which comprises:

mixing a raw material of said M^2 with a raw material of said M^1 ;
grinding the mixture to adjust an average particle diameter of the mixed grind after grinding to an average particle diameter which is not more than that of the raw material of said M^1 before mixing and is not more than $0.5 \mu m$;

calcining the mixed grind to obtain said $M^1M^2O_3$;
mixing said $M^1M^2O_3$ obtained by said calcination with said Y_2O_3 ;
molding the mixture into an article having a predetermined shape; and sintering the article.

12. (Previously Presented) A method of producing a thermistor element having a mixed sintered body $M^1M^2O_3 \cdot Y_2O_3$ of a composition $M^1M^2O_3$ and Y_2O_3 , wherein M^1 is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M^2 is at least one element selected from the elements of the groups IIB, IIIB, IVA, VA, VIA, VIIA and VIII, which comprises:

using those containing at least Y_2O_3 as a raw material of said M^1 ;

mixing a raw material of said M^2 with the raw material of said M^1 ;
grinding the mixture to adjust an average particle diameter of the mixed grind after grinding to an average particle diameter which is not more than that of the raw material of said M^1 before mixing and is not more than $0.5\text{ }\mu\text{m}$;
calcining the mixed grind to obtain a precursor having the same composition as that of said mixed sintered body $M^1M^2O_3$
molding said precursor obtained by said calcination into an article having a predetermined shape; and
sintering the article.

13. (Previously Presented) A method of producing a thermistor element having a mixed sintered body $M^1M^2O_3 \cdot Y_2O_3$ of a composition $M^1M^2O_3$ and Y_2O_3 , wherein M^1 is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M^2 is at least one element selected from the elements of the groups 113, IIIB, IVA, VA, VIA, VIIA and VIII, which comprises:

mixing a raw material of said M^2 with a raw material of said M^1 ;
grinding the mixture to adjust an average particle diameter of the mixed grind after grinding to an average particle diameter which is not more than that of the raw material of said M^1 before mixing and is not more than $0.5\text{ }\mu\text{m}$;
calcining the ground mixture to obtain said $M^1M^2O_3$;
mixing said $M^1M^2O_3$ obtained by said calcination with said Y_2O_3 ;
grinding the mixture to adjust an average particle diameter of the mixture after grinding to an average particle diameter which is not more than that of the raw material

of said Y_2O_3 before mixing;

molding the ground mixture into an article having a predetermined shape; and
sintering the article.

14. (Previously Presented) A method of producing a thermistor element having a mixed sintered body $M^1M^2O_3 \cdot Y_2O_3$ of a composition $M^1M^2O_3$ and Y_2O_3 , wherein M^1 is at least one element selected from the elements of the groups IIA and IIIA excluding La in the Periodic Table, and M^2 is at least one element selected from the elements of the groups IIB, IIIB, IVA, VA, VIA, VIIA and VIII, which comprises:

using those containing at least Y_2O_3 as a raw material of said M^1 ;

mixing a raw material of said M^2 with the raw material of said M^1 ;

grinding the mixture to adjust an average particle diameter of the mixed grind after grinding to an average particle diameter which is not more than that of the raw material of said M^1 before mixing and is not more than $0.5 \mu m$;

calcining the ground mixture to obtain a precursor having the same composition as that of said mixed sintered body $M^1M^2O_3$

grinding said precursor obtained by said calcination to adjust an average particle diameter of said precursor after grinding to an average particle diameter which is not more than that of the raw material Y_2O_3 as the raw material of said M^1 before mixing;

molding the ground precursor into an article having a predetermined shape; and
sintering the article.

Claims 15-22 (Canceled).